

# **\*\*ATTENTION\*\***

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## **Pygmy Whitefish**

*Prosopium coulteri*

### **Range:**

The pygmy whitefish has a disjunct or discontinuous distribution in North America. It occurs in the Columbia River system in western Montana and Washington, in British Columbia, Yukon Territory, and in the Bristol Bay and Alaska Peninsula region of southwestern Alaska (Scott and Crossman 1973).

### **Washington Distribution:**

Relict populations are found in lakes and cold streams associated with the Columbia River system and have been reported in Diamond Lake near Spokane, Crescent Lake on the Olympic Peninsula, and Lake Chester Morse near Seattle.

### **Habitat Requirements:**

Pygmy whitefish inhabit lakes at depths greater than 7 m (20 ft), stream reaches with swift currents, and cold water. Spawning occurs in riffles of streams or near lake shores during the fall and winter months. Fry generally emerge during the following spring. The diet consists primarily of benthic invertebrates, including aquatic insect larvae, crustaceans, and small mollusks. In lakes, they feed primarily on zooplankton (Wydoski and Whitney 1979).

### **Limiting Factors:**

Stream temperatures which exceed the normal spawning range, a lack of spawning habitat, high sedimentation in spawning areas, and/or a lack of preferred food items will also limit the population and range of pygmy whitefish.

### **Management Recommendations:**

The maintenance of riparian vegetation is essential for controlling stream temperature, providing cover, and protecting against lateral erosion. Removal of streamside vegetation lowers canopy density (shading) and increases sedimentation. Increases in solar radiation raises stream temperatures thereby negatively impacting spawning, hatching, and rearing survival. Increased sedimentation contributes to the loss of spawning habitat and decreases the diversity of aquatic invertebrates and other food items (Newbold et al. 1980, Noss 1983, Heede 1985). Buffer zones along stream banks should be at least the width of the height of the tallest tree or 15.2 m (50 ft) whichever is wider. The vegetative buffer will provide erosion control, and maintain natural stream temperatures and diversity of aquatic invertebrates (Meehan et al. 1977, Newbold et al. 1980). In Washington, this can range up to 60 m (200 ft.). This "zone of influence" (Meehan et al. 1977) should be maintained along stream banks which provide pygmy whitefish habitat, and any other stream which directly or indirectly influences pygmy whitefish. Road construction and maintenance activities should be avoided adjacent to streams with pygmy whitefish. In-stream structures such as bridges, piers, boat ramps, or culverts must not impede the natural movements of pygmy

whitefish.

#### References:

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Newbold, J.D., D.C. Erman, and K.B. Roby. 1977. Effect of logging on macroinvertebrates in streams with and without buffer strips. J. Fish. Aquat. Sci. 37:1076-1085.

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Scott, W.B. and E.J. Crossman. 1973. Freshwater Fishes of Canada. Fish. Res. Bd. Canada. Bull. 14.

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#### Key Points:

##### Habitat Requirements:

- Inhabit lakes at depths greater than 7 m (20 ft), stream reaches with swift currents, and cold water.
- Spawning occurs in riffles of streams or near lake shores during the fall and winter months.
- Fry emerge the following spring.
- Primary diet consists of benthic invertebrates in rivers and zooplankton in lakes.

##### Management Recommendations:

- Buffer zones of at least the width of the height of the tallest tree (or 15.2 m (50 ft) whichever is wider) should be maintained along stream banks which provide pygmy whitefish habitat, and any other stream which directly or indirectly influences pygmy whitefish habitat.
- Road construction and maintenance activities should be avoided adjacent to streams which provide pygmy whitefish habitat.
- In-stream structures such as bridges, piers, boat ramps, or culverts must not impede the natural movements of pygmy whitefish.